

Conference Reports

Quality Control and Peer Review

The 23rd LCA Discussion Forum at ETH Zürich (23rd September 2004)

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The Critical Review Process: Parallel or ex-post review?

A critical review can be a parallel process, starting at an early stage of the LCA study with a review of the goal & scope definition, or it can take place once a study is in its final stage. WALTER KLOPFER¹ referred to the SETAC Code of Practice published in 1993, which describes the differences between parallel and ex-post review in a helpful way (pp. 49–50). A small enquiry by ARTHUR BRAUNSCHWEIG among some twenty-five LCA practitioners confirmed Klöpffer's own experience, showing a preference for parallel reviews. As a parallel review allows early feedbacks, it may help to improve quality. Some peers mentioned they would even execute a review process for each of their LCA studies – either external or internal. FREDY DINKEL described how the standardised internal review process at Carbotech surprisingly had overall positive effects on both project quality and budget: Even though the internal review of course creates cost, it often helps in finding shortcuts and possible pitfalls early, thereby usually *reducing* the overall project cost. In the discussion, the forum participants expressed their hope that the revised ISO 14040 would include some guidance on this issue, possibly building on the SETAC Code of Practice.

ISO 14040's Unrealistic Demands on the Critical Review Process

When studied precisely, ISO 14040 becomes quite unclear about the external critical review. Two examples:

- The review by interested parties (Art. 7.3.3) calls for an independent external reviewer who is then free to choose additional reviewers to form a panel – which may (or may not) include interested parties. So, actually, even though the title mentions 'review by interested parties', it is actually not formally necessary to include such interested parties.
- The critical review process according to Art. 7.1. is far too demanding. The standard stipulates that reviewers 'ensure' that a number of items mentioned afterwards were fulfilled – such as the appropriateness of the data used and the consistency and validity of the methods applied. Discussion at the Forum clearly showed that a review cannot deliver this. 'Ensure' is too strong a word for a reviewer's task. He may probe, audit and verify an approach – but not ensure, as this would need a total recalculation and even more background work.

¹ This issue, pp. 98–102: 'The Critical Review Process According to ISO 14040: An Analysis of the Standard and Experiences Gained in its Application' by Walter Klöpffer (DOI: <http://dx.doi.org/10.1065/lca2004.12.190>)

LCA practitioners and ISO 14040 work should make use of the recent developments in the financial accounting world, which developed helpful approaches to this issue of auditing books, procedures and figures. The forum expressed its hope that the current revision of 14040 will not increase ambiguities, but rather clarify such issues in a reasonable way.

Quality Management Procedures in LCA

Quality management (QM) approaches in project, database and software development were the issue of four presentations (available as PDF at the DFs Website <http://www.texma.org/LCA-Forum/lca-forum.html>).

According to PRÉ's experience, quality requirements of their software customers include simple and stable user interfaces. MARC GOODKOOP also described how the implementation of the new Ecoinvent data in the Simapro software created unexpected difficulties and how PRÉ organised its QM procedures. He proposed that, in the future, format definitions be discussed very early on between database and software developers.

In the development of these Ecoinvent data, a very strict information flow on QM process, incl. documentation, was applied (ROLF FRISCHKNECHT). FREDY DINKEL showed how a systematic QM calls for a check on possible deviations, such as errors, uncertainties and ambiguities. He described in good detail their internal QM procedure containing both formal elements and intuitive approaches, such as the critical question of 'would a competitor accept the same goal & scope definitions?'

On a very practical level, OLIVIER JOLLIET demands his students to first get a coarse view on an upcoming LCA task, including a coarse result. This can – or even has to – be done based on generic background data, such as energy consumption per kg of various material production or waste removal. Such a first result – obtained maybe even on the back of a napkin – allows one to discuss possible major flaws or new ideas, thereby increasing the conceptual quality of an LCA or Ecobalance study.

As in earlier LCA discussion forums, the programme included time for short presentations as given by PAUL GILGEN and GABOR DOKA.

Outlook: The 24th Swiss LCA Discussion Forum entitled 'Life-Cycle Approaches for Sustainable Consumption' took place on December 2nd 2004 in Lausanne/CH. In 2005, there will again be three LCA Discussion Forums <<http://www.texma.org/LCA-Forum/lca-forum.html>>, see p. 164. In order to receive free information, send your E-mail address to lcaforum@epfl.ch.